

FIG. 2A PRIOR ART

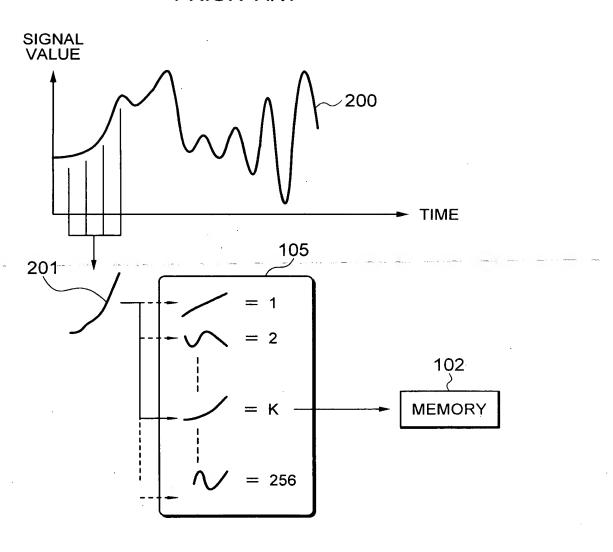


FIG. 2B PRIOR ART

FIG. 3 PRIOR ART **START** n ← 1  $-\frac{1}{\text{Num}}\sum_{i=1}^{\text{Num}}\overrightarrow{x}_{i}$ 301 302 YES n=Nend? O END ₹NO k ← 1 CENTROID SPLITTING  $k \leftarrow k + 1$ NO  $k \leq n$ ?  $n \leftarrow 2 \times n$ YES r ← RANDOM VECTOR 303  $\vec{c}_{k+n} \leftarrow \vec{c}_k - S \times \vec{r}$  $\vec{c}_k \leftarrow \vec{c}_k + S \times r$  $i \leftarrow 1, E_0 \leftarrow \infty$ -304 CALCULATE QUANTIZATION DISTORTION E, 305  $\frac{\mathsf{E}_{\mathsf{i}-\mathsf{1}}\!-\mathsf{E}_{\mathsf{i}}}{\mathsf{E}_{\mathsf{i}}}\!\leq\mathsf{Eend?}$ YES **OPTIMIZATION** ₹NO k ← 1  $i \leftarrow i + 1$ NO  $k \leq n$ ?  $k \leftarrow k + 1$ YES  $\overrightarrow{r} \leftarrow RANDOM VECTOR$ -306  $\vec{c}_k \leftarrow \vec{c}_k + S \times \vec{r}$ 

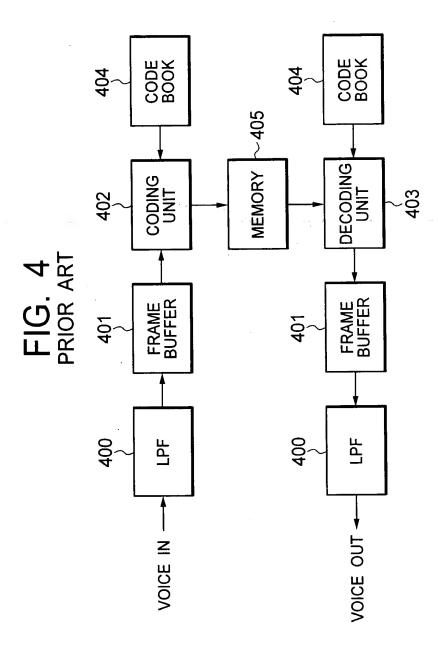


FIG. 5 PRIOR ART

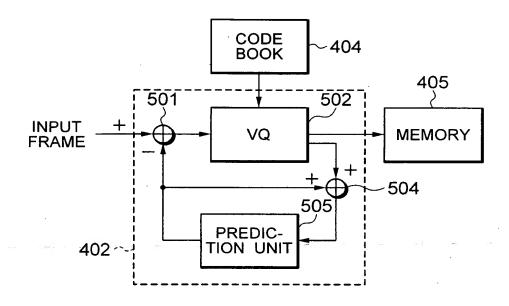


FIG. 6 PRIOR ART

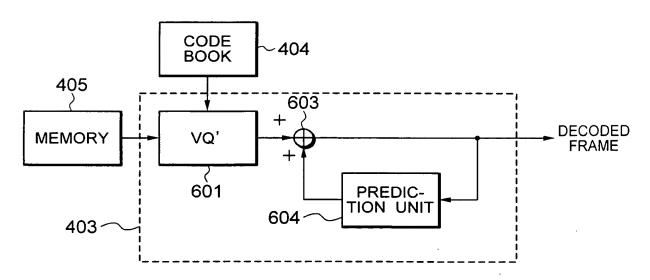


FIG. 7 PRIOR ART

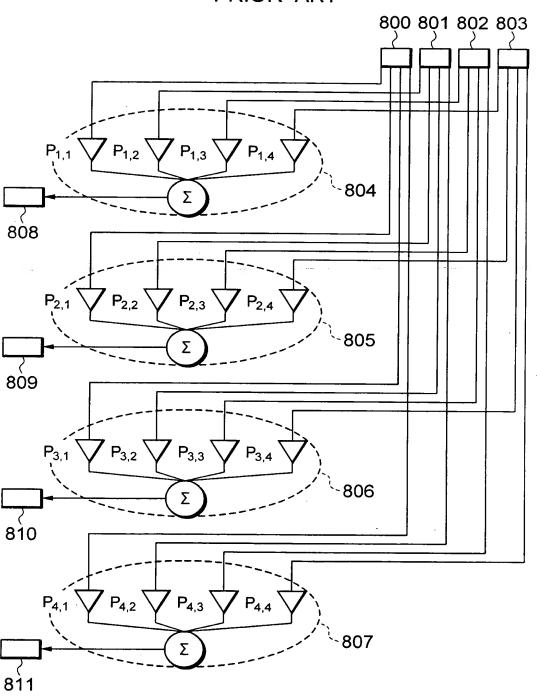


FIG. 9A PRIOR ART

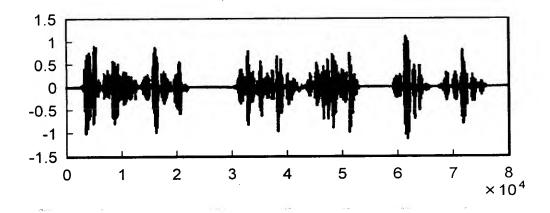


FIG. 9B

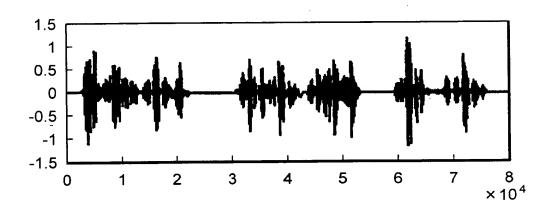


FIG. 10

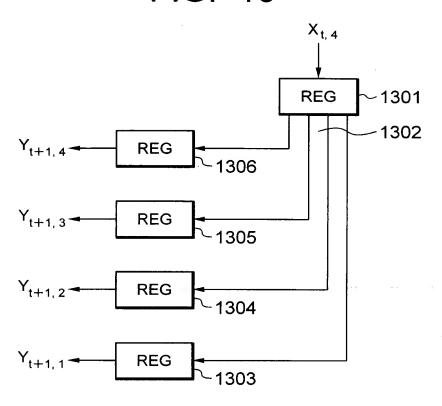


FIG. 11

